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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/699,001	11/03/2003	Fima Goldin		1421

7590 07/28/2006  
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EXAMINER

BOECKMANN, JASON J

ART UNIT	PAPER NUMBER
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3752

DATE MAILED: 07/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No. .

10/699,001

Applicant(s)

GOLDIN, FIMA

Examiner

Jason J. Boeckmann

Art Unit

3752

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 2-18 is/are pending in the application.
- 4a) Of the above claim(s) 4-6, 10 and 12-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2, 3, 7-9 and 11 is/are rejected.
- 7) ☒ Claim(s) 9 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11/3/2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the continuous concave surface and the continuous convex surface of claim 11 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 11, 2 and 3 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

There is no disclosure within the specification or drawings of one of the outer surfaces being continuous concave and the other outer surface being continuous convex as in claim 11. On page 6, first paragraph, of the specification the body is described as having a concave shape, being formed by straight surfaces or curved surfaces, but does not specify that the surface is continuous concave or convex.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 7-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It appears to the examiner that the cross-section of the entire disc is I-shaped, not T-shaped, as stated in line 9 of claim 7. The cross section of haft of the disc could be considered T-shaped, but the cross-section of the entire disc appears to be I-shaped.

Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear from the claims, specification and drawings as to what is meant by the body of the disk being substantially curved (lines 9-10). Is the disc curved as shown in the top view of figure 1 (curved as in a circular disc) or is the disc curved as in having a concave shape which can be seen from a side view (not shown)? The side view shown in figure 3 does not show a curved disc due to the figure having no curved surfaces, however, the disc is shown being concave. Therefore the examiner is considering the phrase, "wherein the body of the disc is substantially curved," to mean that the disc is curved as shown in the top view of figure 1 (circular).

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 2, 3 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Weitmann (3,749,313).

Weitmann shows a rotary disc atomizer comprising a disc (8) having an axis and being rotatable about the axis. The disc having two opposite outer surfaces (figure 1) as considered in an axial direction and a peripheral edge (the outer perimeter of the disc). The disc also including a plurality of circular through holes (10) that allows the fluid to flow from one surface to the other. The body of the disc is substantially curved as seen from a top view. The body of the disc is formed out of a one-piece element having the openings (10), a concave outer surface formed by one of the outer surfaces and a convex surface formed by the other outer surface (figure 1).

Regarding claims 2 and 3, the through holes are circular and have a predetermined radius as shown in figure 2.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuzuki et al (JP 05-256415).

Tsuzuki et al shows a rotary disc atomizer comprising a disc (9) having an axis and being rotatable about the axis. The disc having two opposite outer surfaces (figure 3) as considered in an axial direction and a peripheral edge (the outer perimeter of the disc). The disc also including a plurality of circular through holes (9b) that allows the fluid to flow from one surface to the other, wherein the disc includes an annular rim (9a) projecting from one of the said outer surfaces in an axial direction. Tsuzuki et al does not show an annular rim projecting from the other outer surface in the opposite axial direction from the first rim. However, Tsuzuki et al does teach that the rim (9a) atomizes the fuel further as it collides with the bending section (9a). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to add an annular rim to the other outer surface and have it project in the opposite axial direction of the already existing annular rim (9a) in order to further atomize the liquid droplets and throw them further from the center of the spinning disk in both axial directions. This would provide a wider region of atomized particles.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuzuki et al (JP 05-256415).

Tsuzuki et al as modified above includes all aspects of the applicant's invention of claim 7, but does not specifically disclose that the transition between one of the projections and the body of the disk is curved. However, fillets are well known in the art to provide a smooth transition of an interior corner of a part used to reduce stress concentration. Therefore, It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to use a fillet to provide a smooth curved transition between the projections (9b) and the body of the disk in order to increase the strength of the disk.

#### ***Allowable Subject Matter***

Claim 9 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Response to Arguments***

Applicant's arguments filed 5/9/2006 have been fully considered but they are not persuasive. The disk 9 is curved as shown from the top view as discussed in the 112 rejection of claim 7 above. And it does have thoroughgoing openings (9b) shown in figure 3 and described in paragraph 33, line 7, of the specification.



Applicant's arguments with respect to claim 11 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

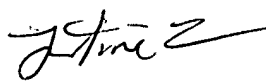
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason J. Boeckmann whose telephone number is (571) 272-2708. The examiner can normally be reached on 7:30 - 5:00 m-f, first Friday off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A. Scherbel can be reached on (571) 272-4919. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JJB 7/24/06 JJB

  
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7/24/06